



**Hazen Research, Inc.**  
4601 Indiana Street  
Golden, CO 80403 USA  
Tel: (303) 279-4501  
Fax: (303) 278-1528

Lab Control ID: 19F01525

Received: Sep 03, 2019

Reported: Sep 25, 2019

Purchase Order No.

None Received

Customer ID: 03522Z

Account ID: Z00372

Russell Huffman  
Desert View Power, Inc.  
62-300 Gene Welmas Drive  
Mecca, CA 92254-0758

## ANALYTICAL REPORT

*Report may only be copied in its entirety.  
Results reported herein relate only to discrete samples  
submitted by the client. Hazen Research, Inc. does not warrant  
that the results are representative of anything other than the  
samples that were received in the laboratory*

By: 

Mark A. Pugh  
Fuel Laboratory Manager



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## ANALYTICAL REPORT

Russell Huffman  
Desert View Power, Inc.

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**Customer Sample ID**

**Boiler Fuel Feed 8/26/19**

Lab Sample ID

19F01525-001

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pH of a 25% Mixture

5.96

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Desert View Power, Inc.

Customer Sample ID		Boiler Fuel Feed 8/26/19
Lab Sample ID		19F01525-001
Sodium in Ash as Na <sub>2</sub> O	%	3.15
Potassium in Ash as K <sub>2</sub> O	%	3.67
Chlorine in Ash	%	0.36
Carbon Dioxide in Ash	%	0.80

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The sample was ashed at 600 degrees celsius prior to analysis.



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## ANALYTICAL REPORT

**Russell Huffman**  
**Desert View Power, Inc.**

**Client Sample ID Boiler Fuel Feed 8/26/19**

Lab Sample ID 19F01525-001

Reporting  
Basis >

**As Rec'd**

**Dry**

**Air Dry**

### Proximate (%)

Moisture	20.88	0.00	3.25
Ash	10.40	13.15	12.72
Volatile	53.81	68.01	65.80
Fixed C	14.91	18.84	18.23
Total	100.00	100.00	100.00

Sulfur	0.204	0.257	0.249
Btu/lb (HHV)	5770	7293	7056
Btu/lb (LHV)	5143	6772	
MMF Btu/lb	6497	8499	
MAF Btu/lb		8397	

### Ultimate (%)

Moisture	20.88	0.00	3.25
Carbon	35.31	44.63	43.18
Hydrogen	4.45	5.62	5.44
Nitrogen	0.60	0.75	0.73
Sulfur	0.204	0.257	0.249
Ash	10.40	13.15	12.72
Oxygen*	28.16	35.59	34.43
Total	100.00	100.00	100.00

Chlorine**	0.141	0.178	0.172
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Air Dry Loss (%)

18.22

Forms of Sulfur, as S, (%)

Sulfate  
Pyritic  
Organic

Total 0.204

Water Soluble Alkalies (%)

Na<sub>2</sub>O 0.092  
K<sub>2</sub>O 0.298

\* Oxygen by difference

\*\* Not usually reported as part of the ultimate analysis.

Lb. Alkali Oxide/MM Btu = 1.23  
Lb. Ash/MM Btu= 18.03  
Lb. SO<sub>2</sub>/MM Btu= 0.706  
Lb. Cl/MM Btu= 0.24  
F-Factor(dry), DSCF/MM Btu= 9,957

Report Prepared By:

Mark A. Pugh  
Fuel Laboratory Manager



HAZEN

**Hazen research Inc.**

4601 Indiana St. Golden Co. 80403

Tel: (303) 279 - 4501

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**SAMPLE SUBMITTAL FORM**

Sample Identification

**BOILER FUEL FEED**Date 8-26-19

- ☒ Ultimate, Proximate, & BTU
- ☐ Ultimate
- ☐ Proximate
- ☐ Moisture
- ☐ Ash
- ☐ Sulfur
- ☐ Calorific Value. BTU / lb
- ☒ Chlorine
- ☐ Elemental Analysis of ash ( Si, Al, Ti, Fe, Ca, Mg, Na, K, P, S as oxides)
- ☒ Chlorine in ash
- ☒ Carbon Dioxide in ash
- ☐ Fusion temperatures of ash ( oxidizing & reducing)
- ☒ Water soluble alkalis (Na<sub>2</sub>O & K<sub>2</sub>O)
- ☐ Water soluble calcium (CaO)
- ☒ Alkali, Lbs / MMBTU (Need Na<sub>2</sub>O & K<sub>2</sub>O in ash If Elemental is not run)
- ☐ Sodium in ash (Na<sub>2</sub>O)
- ☐ Potassium in ash (K<sub>2</sub>O)

Submit samples to:

Hazen research, Inc.  
 Attn: Gerard H Cunningham  
 4601 Indiana St.  
 Golden, Colorado 80403

Reports &amp; Billing to:

Colmac Energy, Inc.  
 Paula Bates  
 Po Box 758  
 Mecca, Ca. 92254- 0758